

A1
Cmt'd
an amount about 0.01 wt.% to about 5 wt.% based on the total weight of the absorbent product.

A2
20. (Amended) A method of inhibiting the production of TSST-1 toxin by exposing TSST-1 toxin-producing Staphylococcus aureus bacteria to an absorbent product, the absorbent product having an absorbent material and a composition, the composition comprising:

at least one antibacterial agent; and

at least one finishing agent,

wherein the composition has synergistic antibacterial properties effective to neutralize the production of toxin and reduce Staphylococcus aureus bacteria growth.

A3
24. (Amended) The method of claim 22, wherein said one or more quaternary ammonium compounds are present in an amount about 0.01 wt.% to about 5 wt.% based on the total weight of the absorbent product.

REMARKS

Claims 1 through 38 are pending in the application. Details of the Amendments to the above claims are set forth in the attachment entitled "Marked Up Version of the Claims."

Claim 7 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office

Action states that there is insufficient antecedent basis for the limitation "said quaternary ammonium compounds" in line 2. Claim 7 now recites the limitation "one or more quaternary ammonium compounds" and is supported by such antecedent basis in claim 6.

Claims 1, 2, 3, 18, 20, 21, 22, and 37 are rejected under 35 U.S.C. § 102(b) as anticipated by Swanson (5,783,502).

Swanson describes reagents and methods for modifying fabric substrates in order to inactivate viruses upon contact by photochemically immobilizing hydrophilic polymers having both quaternary ammonium groups and hydrocarbon chains. The substrates of Swanson can be used for medical purposes.

Independent claim 1 relates to an absorbent product having an absorbent material and a composition disposed within the absorbent material. The composition has at least one antibacterial agent and at least one finishing agent, wherein the composition has synergistic antibacterial properties effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth.

Applicants respectfully submit that Swanson fails to disclose or suggest a synergistic relationship between the at least one antibacterial agent and at least one finishing agent effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth, as recited in claim 1. Table 1 on page 12 and 13 of the present application shows sample data demonstrating that the combination of an at least one antibacterial agent with an at least one finishing agent "significantly reduces the growth of *S. aureus*, as compared to

the innoculum control, by greater than 7 logs from the average of 1.4×10^9 CFU/ml. The growth was reduced by greater than 4 logs from an initial bacterial load of 1.6×10^6 CFU/ml. In addition, the innoculum control average TSST-1 of 440.09 ng/ml was reduced by greater than 96% to an average of 17.18 ng/ml." (page 13, lines 5 to 10).

The photoactivatable groups of Swanson are added into the polymeric chains of the hydrophilic antiviral polymers to immobilize the polymers by photochemical coupling to the fabric surface. (col. 7, lines 19 through 24). Swanson clearly fails to disclose or suggest that the addition of the photoactivatable groups into the polymer has synergistic antibacterial properties effective to reduce *Staphylococcus aureus* bacteria growth, much less neutralize the production of toxin, as recited in claim 1.

Therefore, it is respectfully submitted that claim 1, as well as claims 2, 3, and 18, which depend from claim 1, are patentably distinguishable over Swanson for at least the reasons set forth above. Reconsideration and withdrawal of the 102(b) rejection of these claims is respectfully requested.

Independent claim 20 is directed to a method of inhibiting the production of TSST-1 toxin by exposing TSST-1 toxin-producing *Staphylococcus aureus* bacteria to an absorbent product, with the absorbent product having an absorbent material and a composition. The composition has at least one antibacterial agent and at least one finishing agent, wherein the composition has synergistic antibacterial properties effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth.

Applicants respectfully submit that, as discussed above relative to claim 1, Swanson clearly fails to disclose or suggest an absorbent article with a composition having a synergistic combination of at least one antibacterial agent and at least one finishing agent effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth, as recited in claim 20.

Therefore, it is respectfully submitted that claim 20, as well as claims 21, 22, and 37, which depend from independent claim 20, are patentably distinguishable over Swanson for at least the reasons set forth above with respect to claim 20. Reconsideration and withdrawal of the 102(b) rejection of these claims are respectfully requested.

Claims 4 through 14, 17, 19, 23 through 32, 35, 36, and 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson (5,783,502) in view of Merritt (6,245,361).

Swanson is summarized above. Merritt describes an aqueous cleaning and disinfecting composition having a chlorine-containing bleach compound and a bactericidal quaternary ammonium compound. The composition is used in cleaning surfaces such as "countertops, work areas, rest rooms, meat packing rooms, food handling areas and the like." (col. 8, lines 48 and 49).

Applicants respectfully submit that the combination of Swanson and Merritt is based on impermissible hindsight, as there is no suggestion or motivation in either of the references for the proposed combination. Swanson relates to

fabric substrates treated with photochemically immobilized hydrophilic polymers, while Merritt relates to a cleaning and disinfecting composition. The absorbent products of the present invention include catamenial tampons, wound dressings, disposable diapers, sanitary napkins, other kinds of tampons, such as those intended for medical, surgical, dental and/or nasal use, and any other article or device for absorbing body fluids therein. (page 7, lines 17 through 21). Nowhere is an absorbent product disclosed or suggested as part of the cleaning and disinfecting composition of Merritt. Furthermore, the cleaning and disinfecting composition of Merritt is for cleaning surfaces such as "countertops, work areas, rest rooms, meat packing rooms, food handling areas and the like." (col. 8, lines 48 and 49). Merritt does not disclose or suggest the use of the cleaning and disinfecting composition of Merritt on skin, as suggested by the Office Action. Column 3, lines 58 through 62 describe a background art liquid detergent, not the cleaning and disinfecting composition of Merritt. Merritt is entirely unrelated art to Swanson's fabric substrates or the present application's absorbent articles. Thus, Applicants fail to see why it would have been obvious to the artisan to combine the teachings of these disparate references. A person of ordinary skill in the art of making absorbent articles would have no motivation to combine Swanson and Merritt.

It is further maintained that even if one could be motivated to combine Swanson and Merritt, which is not admitted, the combination fails to disclose or suggest all the limitations of claims 4 through 14, 17, 19, 23 through 32, 35, 36, and 38.

Claim 4, which depends indirectly from independent claim 1, additionally provides that the at least one antibacterial agent be one or more quaternary ammonium compounds having a specific chemical structure.

As stated above with respect to claim 1, Swanson clearly fails to disclose or suggest an absorbent article with a composition having a synergistic combination of at least one antibacterial agent and at least one finishing agent effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth, as recited in claim 4. Swanson also fails to disclose or suggest the at least one antibacterial agent being one or more quaternary ammonium compounds having the specific chemical structure as recited in claim 4. Merritt fails to cure the deficiencies of Swanson. Particularly, Merritt fails to disclose or suggest an absorbent product, absorbent material, a composition disposed within the absorbent material having at least one antibacterial agent and at least one finishing agent, or a synergistic relationship between the at least one antibacterial agent and at least one finishing agent effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth, as recited in claim 1 and thus claim 4. Therefore, Applicants respectfully submit that claim 4 patentably distinguishes over the cited art.

Claims 5, 6, 23, 25, and 26 each depend indirectly from independent claim 1. Therefore, Applicants respectfully submit that claims 5, 6, 23, 25, and 26 are patentably distinguishable over the cited combination of Swanson and Merritt for at least the reasons discussed above with respect to claims 1 and 4.

Claim 7 depends indirectly from independent claim 1. Claim 7 adds the features of the at least one antibacterial agent being one or more quaternary ammonium compounds, that the one or more quaternary ammonium compounds are a mixture of alkyl dimethyl benzylammonium chloride and alkyl dimethyl ethylbenzylammonium chloride, and that the one or more quaternary ammonium compounds are present in an amount of about 1.0 wt.% based on the total weight of the absorbent product.

Applicants respectfully submit that claim 7 patentably distinguishes over the cited art for at least the reasons discussed above with respect to claims 1 and 4. Furthermore, Applicants respectfully submit that Swanson does not disclose or suggest, as stated in the Office Action, that the one or more quaternary ammonium compounds are present in an amount of about 1.0 wt.% based on the total weight of the absorbent product, as in claim 7. It is important to note that the amounts of quaternary ammonium compounds present in the absorbent product are related to the synergistic effect discussed above with respect to claim 1. Table 2 of Swanson indicates that quaternary ammonium salts can be 2% or 4% of the photochemically immobilized hydrophilic polymers. The polymers of Swanson are then coated on a substrate. (see column 4). Swanson neither discloses or suggests the weights of the substrates nor the amount of polymer coated onto the substrates. Therefore, Swanson fails to disclose or suggest the amount of quaternary ammonium compounds that are present based on the total weight of the absorbent product, as in claim 7. Merritt fails to cure this deficiency in Swanson.

Similarly, claims 8, 9, 24, 27, and 28 depend indirectly or directly from the independent claims 1 or 20. Applicants

respectfully submit that claims 8, 9, 24, 27, and 28 patentably distinguish over the cited combination of art for at least the reasons discussed above with respect to claims 1 and 4. Furthermore, each of claims 8, 9, 24, 27, and 28 add features of the amount of either the one or more quaternary ammonium compounds or the at least one antibacterial agent present in the absorbent product based on the total weight of the absorbent product. As discussed above with respect to claim 7, Swanson fails to disclose or suggest the amount of quaternary ammonium compounds that are present based on the total weight of the absorbent product, as in claim 7. Merritt fails to cure this deficiency in Swanson.

Claims 10 through 14, 17, 19, 29 through 32, 35, 36, and 38 each depend directly or indirectly from independent claims 1 or 20. Applicants respectfully submit that claims 10 through 14, 17, 19, 29 through 32, 35, 36, and 38, therefore, are patentably distinguishable over the cited combination of art for at least the reasons discussed above with respect to claims 1 and 20. Particularly, Swanson fails to disclose or suggest an absorbent article with a composition having a synergistic combination of at least one antibacterial agent and at least one finishing agent effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth. Merritt fails to cure the deficiency of Swanson.

Furthermore, claim 12 adds the features of the at least one finishing agent being one or more surfactants, and that the one or more surfactants are present in an amount about 0.01 wt.% to about 10 wt.% based on the total weight of the absorbent product.

Applicants respectfully submit that neither Swanson nor Merritt, alone or in combination, disclose or suggest that the one or more surfactants are present in an amount about 0.01 wt.% to about 10 wt.% based on the total weight of the absorbent product, as in claim 12. Swanson does not disclose or suggest the use of a surfactant. Although, Merritt describes the use of a surfactant, as discussed above, there is no motivation to combine the surfactant of Merritt with the polymers of Swanson. Furthermore, as Swanson describes amounts of quaternary ammonium compound in the polymer alone, Merritt describes the amount of surfactant as not to exceed about 15% by weight of the cleaning and disinfecting composition. There is no disclosure or suggestion in either of these references as to the amount of surfactant based on the total weight of the absorbent product. Therefore, claim 12, as well as claims 17, 35, and 36, which also add amounts of at least one finishing agent or one or more surfactants present based on the total weight of the absorbent product, are patentably distinguishable over the cited art and their cited combination.

Claims 15, 16, 33 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Swanson and Merritt as applied to claims 1, 13, 14, 20, 31, and 32, and further in view of Hama, et al. ("Hama").

Hama is directed to a method of manufacturing a fatty acid ester of polyoxyalkylene alkyl ether in which a fatty acid ester of polyoxyalkylene alkyl ether of a specific formula is produced.

Claim 15 depends indirectly from independent claim 1 and adds that the at least one finishing agent be one or more

nonionic surfactants, and that the one or more nonionic surfactants is one or more polyoxyethylene fatty acid esters.

Claim 16 depends indirectly from claim 15, and adds that of the polyoxyethylene fatty acid ester be present in an amount about 2.5 wt.% based on the total weight of the absorbent product.

Applicants respectfully submit that, as discussed above with respect to claims 1 and 4, Swanson and Merritt clearly fail to disclose or suggest, alone or in combination, an absorbent article with a composition having a synergistic combination of at least one antibacterial agent and at least one finishing agent effective to neutralize the production of toxin and reduce *Staphylococcus aureus* bacteria growth, as recited in claim 1 and thus claims 15 and 16. Hama fails to cure this deficiency.

With respect to claim 16, Swanson and Merritt fail to disclose or suggest the amount based on the total weight. Hama has no disclosure or suggestion of the amount of polyoxyethylene fatty acid ester present, let alone present based on the total weight of the absorbent product and therefore, does not cure the deficiencies of Swanson and Merritt.

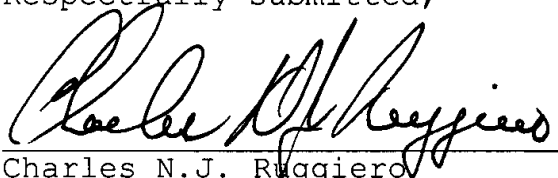
Applicants respectfully submit that claims 15 and 16 are patentably distinguishable over the cited art and the cited combination thereof. Furthermore, claims 33 and 34, which depend directly or indirectly from independent claim 20 and recite similar features as claims 15 and 16, are patentably

distinguishable for at least the reasons discussed above with respect to claims 20, 15, and 16.

In view of the foregoing, Applicants respectfully submit that all claims presented in this application patentably distinguish over the cited prior art and the cited combinations of same. Accordingly, Applicants respectfully request favorable consideration and the passage of all claims to allowance.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Charles N.J. Ruggiero", is written over a horizontal line.

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Marked-Up Version of Claims

7. (Amended) The absorbent product of claim 6, wherein said one or more quaternary ammonium compounds are present in an amount of about 1.0 wt.% based on the total weight of the absorbent product.

8. (Amended) The absorbent product of claim 3, wherein said one or more quaternary ammonium compounds are present in an amount about 0.01 wt.% to about 5 wt.% based on the total weight of the absorbent product.

20. (Amended) A method of inhibiting the production of TSST-1 toxin by exposing TSST-1 toxin-producing Staphylococcus aureus bacteria to an absorbent product, the absorbent product having an absorbent material and a composition, the composition comprising:

at least one antibacterial agent; and

at least one finishing agent,

wherein the composition has synergistic antibacterial properties effective to neutralize the production of toxin and reduce Staphylococcus aureus bacteria growth.

24. (Amended) The method of claim 22, wherein said one or more quaternary ammonium compounds are present in an amount about 0.01 wt.% to about 5 wt.% based on the total weight of the absorbent product.

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Marked-Up Version of Claims

7. (Amended) The absorbent product of claim 6, wherein said one or more quaternary ammonium compounds are present in an amount of about 1.0 wt.% based on the total weight of the absorbent product.

8. (Amended) The absorbent product of claim 3; wherein said one or more quaternary ammonium compounds are present in an amount about 0.01 wt.% to about 5 wt.% based on the total weight of the absorbent product.

20. (Amended) A method of inhibiting the production of TSST-1 toxin by exposing TSST-1 toxin-producing Staphylococcus aureus bacteria to an absorbent product, the absorbent product having an absorbent material and a composition, the composition comprising:

at least one antibacterial agent; and

at least one finishing agent,

wherein the composition has synergistic antibacterial properties effectively to neutralizes the production of toxin and reduces Staphylococcus aureus bacteria growth.

24. (Amended) The method of claim 22, wherein said one or more quaternary ammonium compounds are present in an amount about 0.01 wt.% to about 5 wt.% based on the total weight of the absorbent product.